

We claim:

1 1. A portable, wearable, computerized system for  
2 collecting, coordinating, and communicating  
3 information, said system being capable of providing  
4 real-time situational awareness in armed conflict  
5 conditions, said system comprising:  
6 a computer for operating said system;  
7 a software interface for interacting with  
8 said computer;  
9 an input/output device for interfacing said  
10 computer with the components of said system, said  
11 components including:  
12 a display for displaying information processed by  
13 said computer;  
14 a voiceless, wireless communications means; and  
15 a user position location device;  
16 wherein said computer, said input/output device,  
17 and said components are each so designed so as to be  
18 quickly removable or replaceable such that said system  
19 is modular;  
20 and wherein said system is adaptable to be  
21 wearable on a variety of existing commercial-off-the-  
22 shelf or government-furnished equipment, vests, packs,  
23 or body armor.

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1 2. A portable, wearable, weapon-integrated  
2 computerized system for collecting, coordinating, and  
3 communicating information, said system being capable of  
4 providing real-time situational awareness in armed  
5 conflict conditions, said system comprising:  
6 a computer for operating said system;  
7 a software interface for interacting with  
8 said computer;  
9 an input/output device for interfacing said  
10 computer with the components of said system, said  
11 components including:  
12 a display for displaying information processed by  
13 said computer;  
14 a voiceless, wireless communications means;  
15 a user position location device; and  
16 a weapon communicably connected to said computer;  
17 wherein said computer, said input/output device,  
18 and said components are each so designed so as to be  
19 removable or replaceable such that said system is  
20 modular;  
21 and wherein said system is adaptable to be  
22 wearable on a variety of existing commercial-off-the-  
23 shelf or government-furnished equipment, vests, packs,  
24 or body armor.

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1 3. The system of claims 1 or 2 wherein said modular  
2 nature of said components renders said system capable  
3 of being quickly tailored to situationally specific  
4 conditions or environments.

1 4. The system of claim 3 wherein said computer, said  
2 input/output device, and each said component of said  
3 system is a self-contained, individually ruggedized,  
4 and weatherproofed unit.

1 5. The system of claims 1 or 2 wherein said  
2 input/output device comprises:  
3 voltage converters for converting power provided  
4 by an independent power source to voltages compatible  
5 with said components of said system, said voltage  
6 converters thereafter being capable of transmitting  
7 said converted power to said respective components; and  
8 data relays for routing data through said system;  
9 said data relays being capable of routing said data  
10 between said components and said computer of said  
11 system thereby permitting said components and said  
12 computer to communicate;  
13 wherein said input/output device is a self-  
14 contained unit with plug-in, plug-out connectors.

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1 6. The system of claim 4 wherein said input/output  
2 device comprises:

3 voltage converters for converting power provided  
4 by an independent power source to voltages compatible  
5 with said components of said system, said voltage  
6 converters thereafter being capable of transmitting  
7 said converted power to said respective components; and  
8 data relays for routing data through said system;  
9 said data relays being capable of routing said data  
10 between said components and said computer of said  
11 system thereby permitting said components and said  
12 computer to communicate;

13 wherein said input/output device is a self-  
14 contained unit with plug-in, plug-out connectors.

1 7. An input/output device for interfacing a computer  
2 with the components of a portable, wearable,  
3 computerized system for collecting, coordinating, and  
4 communicating information, said system being capable of  
5 providing real-time situational awareness in armed  
6 conflict conditions, the input/output device  
7 comprising:

8 voltage converters for converting power provided  
9 by an independent power source to voltages compatible

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10 with said components of said system, said voltage  
11 converters thereafter being capable of transmitting  
12 said converted power to said respective components; and  
13 data relays for routing data through said system;  
14 said data relays being capable of routing said data  
15 between said components and said computer of said  
16 system thereby permitting said components and said  
17 computer to communicate;  
18 wherein said input/output device is a self-  
19 contained unit with plug-in, plug-out connectors.

1 8. The system of claims 1 or 2 wherein said software  
2 interface is controlled by a weapon mounted cursor  
3 control device for interfacing with a computer.

1 9. The system of claim 6 wherein said software  
2 interface is controlled by a weapon mounted cursor  
3 control device for interfacing with a computer.

1 10. The weapon mounted cursor control device according  
2 claim 8, wherein said weapon mounted cursor control  
3 device comprises:

4 a first mechanism for controlling a cursor; and

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5 at least a second mechanism for performing  
6 control, selection, or action functions on said  
7 software interface.

1 11. The weapon mounted cursor control device according  
2 claim 9, wherein said weapon mounted cursor control  
3 device comprises:

4 a first mechanism for controlling a cursor; and  
5 at least a second mechanism for performing  
6 control, selection, or action functions on said  
7 software interface.

1 12. The weapon mounted cursor control device according  
2 to claim 8 wherein said weapon mounted cursor control  
3 device is located proximal the rear-center of the  
4 weapon grip.

1 13. The weapon mounted cursor control device according  
2 to claim 9 wherein said weapon mounted cursor control  
3 device is located proximal the rear-center of the  
4 weapon grip.

1 14. The weapon mounted cursor control device according  
2 to claim 12 wherein said cursor control device is a

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3 miniaturized joystick capable of use by both right and  
4 left handed users.

1 15. The weapon mounted cursor control device according  
2 to claim 13 wherein said cursor control device is a  
3 miniaturized joystick capable of use by both right and  
4 left handed users.

1 16. In a portable, wearable, weapon-integrated  
2 computerized system for collecting and coordinating  
3 information, the improvement comprising:  
4 a weapon mounted cursor control device for  
5 interfacing with a computer.

1 17. The weapon mounted cursor control device according  
2 to claim 16 wherein said weapon mounted cursor control  
3 device comprises:  
4 a first mechanism for controlling a cursor;  
5 at least a second mechanism for performing  
6 control, selection, or action functions on said  
7 software interface.

1 18. The weapon mounted cursor control device according  
2 to claim 16 wherein said weapon mounted cursor control

3 device is located proximal the rear-center of the  
4 weapon grip.

1 19. The weapon mounted cursor control device according  
2 to claims 16 or 18 wherein said cursor control device  
3 is a miniaturized joystick capable of use by both right  
4 and left handed users.

1 20. The weapon-mounted cursor control device according  
2 to claim 8 wherein the software which interfaces said  
3 cursor control device with said computer provides a  
4 user with a click-and-carry method of cursor control.

1 21. The weapon-mounted cursor control device according  
2 to claim 9 wherein the software which interfaces said  
3 cursor control device with said computer provides a  
4 user with a click-and-carry method of cursor control.

1 22. The weapon-mounted cursor control device according  
2 to claim 16 wherein the software which interfaces said  
3 cursor control device with said computer provides a  
4 user with a click-and-carry method of cursor control.



1 23. The software according to claim 20 wherein said  
2 click-and-carry method permits a user to select and  
3 pick up a graphical object at a first location on a  
4 computer display by depressing and releasing a select  
5 button;

6 whereby the user can thereafter carry said  
7 graphical object to a second location on said computer  
8 display utilizing a mechanism for controlling said  
9 cursor; and

10 whereby the user can release said graphical object  
11 at said second location by depressing and releasing  
12 said select button.

1 24. The software according to claim 21 wherein said  
2 click-and-carry method permits a user to select and  
3 pick up a graphical object at a first location on a  
4 computer display by depressing and releasing a select  
5 button;

6 whereby the user can thereafter carry said  
7 graphical object to a second location on said computer  
8 display utilizing a mechanism for controlling said  
9 cursor; and

10 whereby the user can release said graphical object  
11 at said second location by depressing and releasing  
12 said select button.

1 25. The software according to claim 22 wherein said  
2 click-and-carry method permits a user to select and  
3 pick up a graphical object at a first location on a  
4 computer display by depressing and releasing a select  
5 button;

6 whereby the user can thereafter carry said  
7 graphical object to a second location on said computer  
8 display utilizing a mechanism for controlling said  
9 cursor; and

10 whereby the user can release said graphical object  
11 at said second location by depressing and releasing  
12 said select button.

1 26. A method of controlling a cursor with a weapon-  
2 mounted cursor control device in a portable, wearable,  
3 weapon-integrated computerized system for collecting  
4 and coordinating information, said method comprising:

5 positioning a cursor proximal a graphical object  
6 located at a first location on a computer display  
7 utilizing a mechanism for controlling a cursor;

8 selecting and picking up said graphical object at  
9 said first location by depressing and releasing a  
10 select button;

11 thereafter carrying said graphical object to a  
12 second location on said computer display utilizing said  
13 mechanism for controlling said cursor; and  
14 thereby releasing said graphical object at said  
15 second location by depressing and releasing said select  
16 button.

1 27. The system according to claims 1 or 2 further  
2 including a battery pack for providing power to said  
3 system,

4 wherein said battery pack comprises at least a  
5 first battery half and a second battery half,  
6 whereby said first or second battery half may be  
7 removed from said battery pack,  
8 whereby the remaining battery half of said battery  
9 pack is capable of providing power to said system.

28. The system according to claim 5 further including  
a battery pack for providing power to said system,  
wherein said battery pack comprises at least a  
first battery half and a second battery half,  
whereby said first or second battery half may be  
removed from said battery pack,  
whereby the remaining battery half of said battery  
pack is capable of providing power to said system.

1 29. The input/output device according to claim 7  
2 wherein said input/output device is so designed so as  
3 to be capable of routing power from at least a first  
4 and second power source;  
5 whereby if said first or second power source is  
6 removed, said first or second remaining power source is  
7 capable of providing power to said system.

1 30. The input/output device according to claim 29  
2 further including a mechanism for switching between  
3 images for display on said system.

1 31. The system according to claims 1 or 2 wherein said  
2 system is capable of being connected to or transmitting  
3 to a high-resolution display.

1 32. The input/output device according to claim 30  
2 wherein said input/output device is so designed so as  
3 to be capable of transmitting live video, collected by  
4 a component of said system, to a high-resolution  
5 display.

1 33. A method of composing messages with a cursor-  
2 control- device for transmission by a portable,  
3 wearable, computerized system for collecting,

4 coordinating, and communicating information, said  
5 method comprising:

6 selecting words or numbers from menus displayed on  
7 a software interface display; said menus providing  
8 groups of words displayable according to selected  
9 situationally-descriptive categories;

10 whereby when said words or numbers are selected  
11 from said menus with said cursor control device, said  
12 words or numbers appear in a text box thereby to form a  
13 message;

14 whereby said message may thereafter be transmitted  
15 to selected recipients utilizing said cursor control  
16 device.

1 34. A method of composing a message utilizing a cursor  
2 control device; said cursor control device being  
3 communicably operable with said software interface of  
4 said system of claims 1 or 2, wherein said method  
5 comprises:

6 selecting words or numbers from menus displayed on  
7 a software interface display; said menus providing  
8 groups of words displayable according to selected  
9 descriptive categories;

10 whereby when said words or numbers are selected  
11 from said menus with said cursor control device, said

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12 words or numbers appear in a text box thereby to form a  
13 message;

14 whereby said message may thereafter be selectively  
15 transmitted utilizing said cursor control device.

1 35. The system of claims 1 or 2 wherein said software  
2 interface is the interface as shown in Fig. 8.

1 36. The weapon-mounted cursor control device according  
2 to claim 8 wherein the weapon-mounted cursor control  
3 device comprises:

4 a first mechanism for controlling a cursor;  
5 at least a second mechanism capable of controlling  
6 a cursor;

7 whereby when said second mechanism is depressed,  
8 said software automatically and substantially  
9 instantaneously positions said cursor proximal the  
10 location of a first graphical icon or software control  
11 button displayed on a software interface display;

12 whereby, each successive time said second  
13 mechanism is depressed, said software automatically and  
14 substantially instantaneously positions said cursor  
15 proximal the location of at least a second graphical  
16 icon or software control button.

1 37. The weapon-mounted cursor control device according  
2 to claim 16 wherein the weapon-mounted cursor control  
3 device comprises:  
4 a first mechanism for controlling a cursor;  
5 at least a second mechanism capable of controlling  
6 a cursor;  
7 whereby when said second mechanism is  
8 depressed, said software automatically and  
9 substantially instantaneously positions said cursor  
10 proximal the location of a first graphical icon or  
11 software control button displayed on a software  
12 interface display;  
13 whereby, each successive time said second  
14 mechanism is depressed, said software automatically and  
15 substantially instantaneously positions said cursor  
16 proximal the location of at least a second graphical  
17 icon or software control button.

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1 39. The weapon-mounted cursor control device according  
2 to claim 20 wherein the weapon-mounted cursor control  
3 device comprises:  
4 a first mechanism for controlling a cursor;  
5 at least a second mechanism capable of controlling  
6 a cursor;  
7 whereby when said second mechanism is depressed,

8 said software automatically and substantially  
9 instantaneously positions said cursor proximal the  
10 location of a first graphical icon or software control  
11 button displayed on a software interface display;  
12 whereby, each successive time said second  
13 mechanism is depressed, said software automatically and  
14 substantially instantaneously positions said cursor  
15 proximal the location of at least a second graphical  
16 icon or software control button.

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